

CLAIMS

What is claimed is:

1. A low impedance conductor for a low impedance extension, comprising:
an outer surface selected for mechanical properties of flexibility and electrical connections having an outer impedance; and,
an inner core selected for conductivity having a core impedance that is substantially lower than the outer impedance;
wherein the outer surface has a resistivity of greater than about 25 micro ohm-centimeter.
2. The low impedance conductor as in claim 1 wherein the outer surface is composed of an nickel, cobalt, chrome, molybdenum alloy.
3. The low impedance conductor as in claim 2 wherein the inner core is a silver.
4. The low impedance conductor as in claim 2 wherein the outer surface provides the mechanical properties of the extension conductor.
5. The low impedance conductor as in claim 3 wherein the mechanical properties include corrosion resistance and fatigue life.
6. The low impedance conductor as in claim 1, wherein the extension conductor is constructed of drawn filled tubing.
7. The low impedance conductor as in claim 1, wherein the extension conductor is constructed of more than one wire strand.
8. The low impedance conductor as in claim 1, wherein the extension conductor has an outer insulator surrounding the outer surface of the extension conductor.
9. A low impedance conductor for a low impedance extension, comprising:
an outer surface selected for mechanical properties of flexibility and electrical connections having an outer impedance; and,

an inner core selected for conductivity having a core impedance that is substantially lower than the outer impedance;
wherein the outer surface is stainless steel.

10. The low impedance conductor as in claim 9, wherein the extension conductor is constructed of drawn filled tubing.

11. The low impedance conductor as in claim 9, wherein the extension conductor is constructed of more than one wire strand.

12. The low impedance conductor as in claim 9, wherein the extension conductor has an outer insulator surrounding the outer surface of the extension conductor.

13. A low impedance conductor for a low impedance extension, comprising:
an outer surface selected for mechanical properties of flexibility and electrical connections having an outer impedance; and,
an inner core selected for conductivity having a core impedance that is substantially lower than the outer impedance, wherein the inner core is a silver alloy.

14. A low impedance conductor for a low impedance extension, comprising:
an outer surface selected for mechanical properties of flexibility and electrical connections having an outer impedance; and,
an inner core selected for conductivity having a core impedance that is substantially lower than the outer impedance, wherein the inner core is a base material selected from the group consisting of gold, copper, platinum, iridium, tantalum, and aluminum.

15. A low impedance conductor for a low impedance extension, comprising:
an outer surface selected for mechanical properties of flexibility and electrical connections having an outer impedance; and,
an inner core selected for conductivity having a core impedance that is substantially lower than the outer impedance, wherein the inner core has a resistivity of less than about 12.5 micro ohm-centimeter.

16. A low impedance conductor for a low impedance extension, comprising:
an outer surface selected for mechanical properties of flexibility and electrical connections having an outer impedance; and,
an inner core selected for conductivity having a core impedance that is substantially lower than the outer impedance;
wherein resistivity ratio of the outer surface to the inner core is at least about 2:1.
17. An low impedance conductor for a low impedance extension, comprising:
an outer surface selected for mechanical properties of flexibility and electrical connections having an outer impedance; and,
an inner core selected for conductivity having a core impedance that is substantially lower than the outer impedance;
wherein the inner core and outer surface have a composite resistance in the range from about 0.05 to about 0.3 ohms per centimeter.
18. The low impedance conductor as in claim 17, wherein the extension conductor is constructed of drawn filled tubing.
19. The low impedance conductor as in claim 17, wherein the extension conductor is constructed of more than one wire strand.
20. The low impedance conductor as in claim 17, wherein the extension conductor has an outer insulator surrounding the outer surface of the extension conductor.
21. A low impedance conductor for a low impedance extension, comprising:
an outer surface selected for mechanical properties of flexibility and electrical connections having an outer impedance; and,
an inner core selected for conductivity having a core impedance that is substantially lower than the outer impedance;

wherein the extension conductor has an outer insulator surrounding the outer surface of the extension conductor, the outer insulator being selected from the group consisting of a fluoropolymer, polyurethane, silicone, and polyimide.